

ENGINEERING STANDARDS UPDATE

[Standards are serious business](#), but this newsletter isn't.

Topics this month:

- Engineers Week
- Training & Qualification (ASME...)
- LANL Standards Issued in January or so
- Engineering Processes News
- DOE Technical Standards Action
- National Standards Action
- When Good Conduct of Engineering Isn't Followed

The LANL Engineering Standards: <http://engstandards.lanl.gov/>



ENGINEERS WEEK

This is big! Info from [LANLTODAY 12/9](#), with updates:

This year's national theme "Engineers: Pioneers of Progress" celebrates engineers, technicians and students. James Owen, Associate Laboratory Director for Weapons Engineering (ALDW), invites employees, students and postdoctoral researchers **from all engineering organizations** (Ops, R&D, etc.) to participate.

LANL's main celebration will be Thursday, **Feb. 20** at the J.R. Oppenheimer Center Second Floor. It begins at 1 pm with Rich Mah's Postdoctoral Publication Prize for Engineering Science presentation. The keynote address at 1:30 is by Dr. M. Katherine Banks, Vice Chancellor of Engineering and National Laboratories, The Texas A&M University System, Dean of Engineering, Texas A&M University Director.



The 10th annual poster session begins at 2:15 and goes until 4:00; it will feature 35+ posters and their presenters (including ES-Divs' own Allen Hayward with *Detecting Earthquakes with a High Degree of Reliability*.) Questions on event? Contact **Lynn Lemler** at 606-0000.

Engr Week Research Library Info Sessions for Engineers

The LANL Research Library's engineering liaison librarian, Sarah Hayes (SRO-RL), will be holding two informational sessions during Engineers Week. Engineers are encouraged to come with any questions they have about accessing standards and other engineering resources and

guides. If you cannot make any of the open sessions, feel free to email Hayes at slhayes@lanl.gov with any questions/comments (or 667-0437). Sessions are:
2/18, 9:00 - 11:00 AM, NSSB Lobby
2/20, 2:15 - 4:00 PM, J.R. Oppenheimer Center, upstairs lobby

And then there's this: **Why are engineers so narrow-minded? New research has an idea (from ZDNet)** Analytical thinking can lock the mind in a box. New research from professors at Stanford and Santa Clara suggests engineers lack a basic ingredient. The academics' solution is, well, controversial. [Read the full story](#)



TRAINING & QUALIFICATION

ASME Offsite Courses – Attn: Mechanical Engineers!!!

There are lots of non-LANL [ASME](#) courses in Santa Fe in March; you can filter by Location to bring up only Santa Fe classes...but many of the courses are offered at the same time. Pricy but no airfare required. Thanks to Kelly Bingham for the tip.

Owner Qual Standard Issued

This new qualification standard, ESD-QS-008, has been approved and issued to the [T&Q page](#) thanks to Ruby Molinar, ES's Training Specialist. This completes the three Qs for Owner, Fire Protection AHJ, and LANL Building Official that correspond to the delegations that NA-LA made to LANL engineering. The Owner qual standard, which is for ES-DO managers like Jim Streit and Jason Apperson, says:

This document describes the training and qualification requirements for the position of "Owner" also known as the Laboratory Design Authority and "Site Chief Engineer" function at Los Alamos National Laboratory (LANL). The Owner is responsible for ensuring that design requirements are established and maintained, ensuring designated output documents accurately reflect the design basis and maintaining design control and ultimate technical adequacy of the design process. The Owner is responsible for all industry codes and standards implemented at LANL for assets managed by Triad with the exception of those associated with the following areas:

- Electrical Safety
- Fire Protection
- Laboratory Building Official

The Owner is the LANL Safety Management Program Owner (SMPO) for engineering, configuration management, and pressure safety functions, including ASME B31 Code for Pressure Piping.

LANL STANDARDS ISSUED IN JANUARY OR SO
Engineering Standards Manual ESM [STD-342-100](#)

ESM-Chapter	Section	Title	Rev.	Date
Chapter 16 - IBC Program	—	Reference: Listing of Approved IBC Testing Agencies and Fabricators		1/9/2020
	—	Reference: IEBC errata file updated		1/24/2020

Master Specs [STD-342-200](#)

Spec Number	Rev.	Spec Title	Effective	Summary of Revision
03 3001	13	Reinforced Concrete	1/23/2020	CWIP and HWIP Apps C and D added, affecting ACI references (1.3.C.2), curing (1.6.E), Curing and Protection (3.8), App. A items 35–37, and App. B line items 44–51. Thanks to POC Glen Pappas.

CAD Standards Manual [STD-342-300](#)

Section	Section/Title	Rev.	Date	Summary of Revision
100	General Requirements	-	2/3/2020	Issued VAR-10383, Elimination of CAD Standards for Sketches [in para. 4.0.A.6] Thanks to Jorge Ruiznavarro, Michael Richardson, and POC Scott Richardson.

ICYMI: [DARHT rising: Special welds give facility's new feature super strength](#)

A nice, technical LANL homepage news story based on input from Jamie Van Winkle (who says she was misquoted where it says the connections were designed to fail; it's the beam at its narrow point, obviously).



ENGINEERING PROCESSES NEWS

The CoE Eng Processes Manager is now fully Sarah Terrill, 667-7788, sterrill@lanl.gov (Jeff Fauble is helping out at TA-55).

The following Administrative Procedure has been revised and posted on the [SharePoint site](#):

<p>AP-341-519-R6</p>	<p>Design Revision Control Course 44245 (for those assigned)</p>	<p>Issued: 01/21/20. Also, issued Feb 3, VAR-10382, "AP-341-519 Rev. 6 Effective Date Extension for Delta." The AP effective date is February 20, so extended the effective date of Rev. 6 for those projects that use the Delta system to process their change control forms/documents. The group working on upgrading Delta says that 30 days extension will be sufficient to complete the task. This will make the effective date for Delta users 3/23/20 (allowing for the weekend).</p>
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When ideas for AP change come, please enter them in the SharePoint database. Use the live button below, same one that's found in the upper right of the Processes [homepage](#).



DOE TECHNICAL STANDARDS ACTION

Tech Stds Program [postings](#) in the past month: none

ICYMI: [Employee Spotlight: Tadz Kostrubala is a pet's best friend](#)



NATIONAL STANDARDS ACTION

LANL's [IHS](#) online codes & standards subscription news:

Document number: **ACI 318 ERTA**

Publication Date: **1/3/2020**

Title: **Building Code Requirements for Structural Concrete (ACI 318-19) Commentary on Building Code Requirements for Structural Concrete (ACI 318R-19)**

Type of Change: **Errata/Erratum**

Document number: **ACI 355.4 IN-LB**

Publication Date: **January 2020**

Title: **Qualification of Post-Installed Adhesive Anchors in Concrete (ACI 355.4-20) and Commentary**

Type of Change: **Complete Revision**

Document number: **AWWA C651** [not in LANL's subscription; contact ES-UI if needed]

Publication Date: **6/8/2014**

Title: **Disinfecting Water Mains**

Type of Change: **Addenda/Addendum**

Document number: **AWS D1.1/D1.1M**

Publication Date: **2020**

Title: **Structural Welding Code—Steel**

Type of Change: **Complete Revision**

Document number: **NFPA 13 ERTA 4**

Publication Date: **12/20/2019**

Title: **Standard for the Installation of Sprinkler Systems**

Type of Change: **Errata/Erratum**

Document number: **NFPA 70**

Publication Date: **2020**

Title: **National Electrical Code** [NOTE: LANL's not adopted the 2020 yet, but IHS now has it posted to their service as view-only (no download icon). The 2017 which we use is still downloadable for now; get it if you may need it, then please log out to let others in, as always.]

Also newish, according to them:

- **ASTM E1316, Revision 19B**
Standard Terminology for Nondestructive Examinations
- **ASTM A182/A182M, Revision 19A**
Standard Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-temperature Service
- **ASTM A240/A240M, 2019 Edition**
Standard Specification for Chromium and Chromium-nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
- **IEC 60898-1, 2.1 Edition**
Electrical Accessories - Circuit-breakers for Overcurrent Protection for Household and Similar Installations - Part 1: Circuit-breakers for A.C. Operation

- **IEEE C57.104, 2019 Edition**

Guide for the Interpretation of Gases Generated in Mineral Oil-immersed Transformers

WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

First, two follow-ups on last month's 737 Max article:

1. From McPaper (USA TODAY): New flight-control problem crops up in 737 Max: Could it add to Boeing's delays and woes? A system that checks for errors when the flight control system powers up didn't work right. [Read the full story](#)
2. From a respected publisher (IEEE): [How the Boeing 737 Max Disaster Looks to a Software Developer](#)/Design shortcuts meant to make a new plane seem like an old, familiar one are to blame. (thanks to Joe Bradley III for this).

...and a new topic, an article (from [Popular Mechanics](#)) on the importance of welding and structural steel on a \$2.2B transit center, thanks to Joy Getha, Jeff Fauble, and others. Fauble said: "Interesting structural engineering/construction mishap. Also interesting how subtle the root cause was." Warning: starts slow but gets better as you read.



A crack is seen in the beam that runs across Fremont Street in September 2018.

TRANSBAY JOINT POWERS AUTHORITY

(yikes)

ICYMI: ES-Div Service Anniversaries (years); congrats to ya'll

35: Michael Denlinger, ES-EPD
25: Yvette Rael, ES-WFO
15: David Chavez, ES-EPD
15: Danielle Garcia, ES-FP
15: Michael Ladach, ES-EPD
15: Donald Yardman, ES-EPD

LAST MONTH'S UPDATE TOPICS

Miss an issue? The archive is at "[Monthly Update](#)" on the Standards homepage. Last month's topics:

- **Training & Qualification**
- **Engineers Week Feb. 20**
- **LANL Standards Issued in December**
- **DOE Technical Standards Action**
- **National Standards Action**
- **When Good Conduct of Engineering Isn't Followed**

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